UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 West 15th St., Suite 3200
HELENA, MONTANA 59626

Ref: 8MO

June 20, 2007

Ms. Deborah A.H. Austin, Forest Supervisor
Att: Andy Kulla, Project Team Leader
Lolo National Forest
Building 24A, Fort Missoula
Missoula, MT 59804

Re: CEQ 20070190; Lolo National Forest Integrated Weed Management Draft Environmental Impact Statement

Dear Ms Austin:

The Environmental Protection Agency (EPA) Region VIII Montana Office has reviewed the Draft Environmental Impact Statement (DEIS) for the Lolo National Forest Integrated Weed Management Project in accordance with its responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309 of the Clean Air Act directs EPA to review and comment in writing on the environmental impacts of any major Federal agency action. EPA's comments include a rating of the environmental impact of the proposed action and the adequacy of the NEPA document.

The EPA fully supports the need to control noxious weeds, which are a great threat to biodiversity and can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Impacts to native plant communities are much reduced when control actions are taken at an early stage of invasion. We support proposed improvements to the Lolo National Forest's Integrated Weed Management Program, including expanded acreage of treatments, managed sheep and goat grazing, and use of two new herbicides, imazapyr and triclopyr, (in accordance with label instructions). We agree that treatment of additional acreage and additional options for weed treatments within infested portions of the Forest are likely to facilitate more effective weed management.

While we support improvements to the Lolo National Forest's integrated weed management program, we also want to emphasize the importance of incorporating adequate environmental protection measures into ground and aerial herbicide applications to mitigate risks of adverse health and environmental effects (i.e., avoid drift of potentially toxic herbicides to aquatic areas or other sensitive areas and impacts to non-target plants). We are pleased that a

weed treatment decision tree would be used to determine the most appropriate methods to minimize risk of adverse environmental effects, and that mitigation measures are identified to reduce risks of adverse health and environmental effects, and help ensure the accuracy and safety of herbicide applications. We do have some suggestions, however, for additional mitigation measures that may further mitigate potential environmental effects of proposed weed treatments. These suggestions are included with our more detailed comments (see enclosed).

We also support proposed efforts for weed prevention and early treatment of weed invasions. Weed prevention is often the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments (e.g., revegetation of disturbed areas, use of weed free seed, cleaning vehicles and equipment, and other practices that prevent infestation and spread of weeds). Early recognition and control of new infestations avoids wider future use of herbicides and other control methods. We are pleased that Section 2081 of the Forest Service Manual (FSM) in Appendix G gives attention to prevention practices and BMPs for weed control. Although, we note that the weed prevention and control practices for fire in FSM 2081.2 #10, did not appear to include guidance that addressed potential for prescribed burning to stimulate weed growth and destroy insects planted for biological weed control. We suggest that you consider inclusion of practices that address noxious weed growth and loss of biological control with prescribed fire in the FSM or elsewhere in the DEIS.

We also believe monitoring should be an integral part of the weed management program. Monitoring is needed to document and assure effective weed treatment with minimal impacts on non-target species, and validate avoidance of adverse environmental or public health effects. EPA is pleased to see that District weed coordinators and Forest specialists would conduct periodic weed prevention Best Management Practices reviews (page 30), although we recommend reviews more frequently than every five years. We recommend pre- and post-evaluations of effectiveness for all weed control projects, so that non-effective weed treatments are re-evaluated and potentially replaced with more effective treatment methods. All weed infestations and control actions should be tracked to provide a comparison of the effectiveness of control measures in a Forest-level weed database.

We also believe the health of downstream domestic, agricultural and recreational water users and of the aquatic ecosystem should dictate that some level of water quality monitoring be carried out to document and verify that aqueous transport of herbicides, particularly picloram, which is highly mobile and toxic, does not occur. Monitoring is necessary to validate that herbicide application protocols and design criteria are effective in preventing herbicide transport to surface and ground waters, and may increase public confidence that chemical contamination of surface waters did not occur. The DEIS indicates that water quality would be monitored before and after treatments "as deemed necessary by the unit hydrologist based on site conditions and experience with past projects." While we are pleased that this suggests that water quality monitoring would be conducted, we are concerned about the lack of definitive or specific information about proposed water quality monitoring. We believe additional information should

be provided to better describe when, where and how aquatic monitoring would be carried out or at least describe criteria for conducting aquatic monitoring so the EIS reader has a better understanding of the proposed water quality monitoring program.

We generally recommend that some sensitive streams and groundwaters adjacent to or near aerial herbicide treatment areas be monitored to validate that herbicide transport to aquatic areas does not occur, particularly monitoring for picloram, since this herbicide is highly soluble and mobile, and relatively persistent and toxic (i.e., select a stream with a high potential for herbicide drift for monitoring or high nearby treatment acreage or treatment area with porous soils and high groundwater, and if no herbicide is identified in this stream or in groundwater, you can better validate and extrapolate that mitigation measures were effective in preventing herbicide drift to other aquatic areas with lower intensity of treatments). Such monitoring will determine if mitigation measures were effective in avoiding herbicide drift to streams or leaching to groundwater, and may increase public confidence that chemical contamination of surface waters did not occur.

Our more detailed comments, questions, and concerns regarding the analysis, documentation, and/or potential environmental impacts of the Lolo National Forest Integrated Weed Management Project DEIS are enclosed for your review and consideration as you complete the Final Environmental Impact Statement (FEIS). Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action and alternatives in an EIS, the DEIS has been rated as Category EC-2 (Environmental Concerns-Insufficient information). A copy of EPA's rating criteria is attached.

The EPA appreciates the opportunity to review and comment on the DEIS. If we may provide further explanation of our concerns please contact Mr. Steve Potts of my staff in Helena at (406) 457-5022 or in Missoula at 406-329-3313, or via e-mail at potts.stephen@epa.gov . Thank you for your consideration.

Sincerely,

/s/ John F. Wardell
Director
Montana Office

Enclosures

cc: Larry Svoboda/Julia Johnson, EPA, 8EPR-N, Denver
Mark Kelley, MDEQ, Helena

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements
Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.

EPA Comments on Lolo National Forest Integrated Weed Management Draft Environmental Impact Statement

BRIEF PROJECT OVERVIEW:

The Lolo National Forest (LNF) prepared this DEIS to evaluate environmental effects of a proposal to implement an improved adaptive integrated weed management program on the Lolo National Forest. The Lolo National Forest encompasses 2.1 million acres in western Montana in Flathead, Granite, Lake, Mineral, Missoula, Powell and Sanders Counties. Approximately 78,443 existing weed infested acres were analyzed for treatments. Seven alternatives for improving weed management were evaluated, with two alternatives given detailed study and five alternatives considered and then eliminated from detailed study.

Alternative 1 is the no action alternative, which involves continuing current integrated weed management program with treatment of 5,000 to 6,000 acres per year depending on funding.

Alternative 2, the proposed action and preferred alternative, involves implementation of an improved adaptive integrated weed management program that adds sheep and goat grazing to education and awareness, prevention, ground and aerial application of herbicides, biological controls, mowing, pulling, seeding and fertilizing methods. A maximum of 15,000 acres would be treated in any one year, and two additional herbicides (imazapyr and triclopyr) would be added to the existing nine herbicides already available for use (aminopyralid, picloram, 2,4,-D, clopyralid, dicamba, glyphosate, chlorosulfuron, imazapic, metsulfuron methyl).

The five alternatives analyzed, but not given further detailed study were: Prevention only; No herbicide use; Low herbicide use; Concentration eradication cells; and No aerial herbicide application.

COMMENTS:

1. EPA fully supports the need to control noxious, weeds which are a great threat to biodiversity, and can out-compete native plants and produce a monoculture that has little or no plant species diversity or benefit to wildlife. Impacts to native plant communities are much reduced when control actions are taken at an early stage of invasion. EPA supports the purpose and need of the Lolo National Forest Integrated Weed Management Project to contain and reduce weed infestations, and allow more timely response to weed infestations and prevent establishment of new weed infestations (pages 4-5), and we support proposed improvements to the Forest's Integrated Weed Management Program, including treatment of additional acreage annually, managed sheep and goat grazing, and use of two new herbicides, imazapyr and triclopyr, (in accordance with label instructions).

We agree that treatment of additional acreage and additional options for weed treatments within infested portions of the Forest are likely to facilitate more effective weed management. The relative effectiveness of Alternative 2 using an improved adaptive integrated weed management program in comparison to Alternative 1 is evident from review of Table 2-4, Comparing How the Alternatives Address the Purpose and Issues (pages 25-26). Given increasing concerns about weed invasion, we recognize the utility of cost-effective methods of weed management such as using newer herbicides, and carefully managed aerial application of herbicides. Aerial applications are cost-effective where there are areas of weed infestation across steep and inaccessible terrain.

2. We appreciate the inclusion of a map section in Appendix A of the DEIS displaying weed project areas in each Ranger District, as well as the other informative Appendices in the DEIS that include useful information as follows:

-Adaptive Strategy Procedure (Appendix B)
-Herbicide Spill Plan (Appendix C)
-Weed Characteristics (Appendix D)
-Mitigation Measure Certification for Herbicide Application in Riparian Zones on the Lolo NF (Appendix E)
-Findings & Recommendations of the Fisheries and Herbicides Work Group (Appendix F)
-FSM 2080 on Noxious Weed Management (Appendix G)
-Alternative Cost Comparison for Lolo Forest Integrated Weed Management (Appendix H)
-Herbicide and Target Weed Species (Appendix I)

It would be helpful, however, if a List of Appendices were included in the Table of Contents of the EIS.

We also want to let you know that the 2006 Custer National Forest Weed Management EIS included an even more informative and comprehensive set of Appendices than included in the Lolo NF Integrated Weed Management DEIS. The set of Appendices in the Custer NF Weed Management EIS was one of the most comprehensive disclosures of weed management mitigation measures, data and information that we have seen (see Custer NF Weed Management EIS at, http://www.fs.fed.us/r1/custer/projects/Planning/weedwebdocs/index.shtml). We encourage the Lolo National Forest to review the comprehensive disclosure of weed management program information in the Custer NF Weed Management EIS, and consider including a similar comprehensive set of Appendices and disclosures in the Lolo NF Integrated Weed Management FEIS.

3. While we support improvements to the Lolo National Forest's integrated weed management program, we also want to emphasize the importance of incorporating

adequate environmental protection measures into ground and aerial herbicide applications to mitigate risks of adverse health and environmental effects (i.e., avoid drift of potentially toxic herbicides to aquatic areas or other sensitive areas and impacts to non-target plants). We are pleased that a weed treatment decision tree would be used to determine the most appropriate methods to minimize risk of adverse environmental effects (page 22).

The list of mitigation measures identified in the DEIS (pages 26-28) are generally good, and evidence understanding of the need to mitigate risks of adverse health and environmental effects and ensure the accuracy and safety of herbicide applications. We do have some suggestions, however, for additional mitigation measures that may further mitigate potential environmental effects of proposed weed treatments, such as:

-Maintain close communications between the helicopter pilot and the ground field observers who monitor herbicide drift, deposition and wind speeds during aerial applications of herbicide.

-GPS systems should be used in spray helicopters in association with flagging or field marking of treatment areas to ensure accuracy of aerial treatments (i.e., to better assure that only areas marked for treatment are treated).

-Drift reduction agents and nozzles that create large droplets to reduce drift to non-target areas should be used during aerial herbicide applications.

-Ground field observers, who will be present during aerial applications, should be trained and equipped with the appropriate personal protective equipment according to the label.

-More selective herbicides (e.g., clopyralid) should be considered for use in conifer associated communities to minimize impacts on non-target plants.

-Only treatment methods that target individual noxious weed plants should be used in riparian and wetland areas. (We encourage mechanical removal or hand-pulling of weeds that do not contain extensive root systems near surface waters. It may be helpful to add a list of those weed species which can be effectively hand-pulled (i.e. those without large tap roots and spreading rhizomatous root systems). Also, the herbicide application technique of hand or manual wipe-on (especially applicable for contact systemic herbicides such as glyphosate) is not mentioned as an option to control individual weed plants up to the existing water level adjacent to streams or sensitive aquatic sites. As you know, picloram is toxic, mobile and persistent, and we would be concerned about use of picloram use near streams or in areas of high groundwater. For your information, Dow AgroSciences, the manufacturer of Tordon 22K, has recently developed

supplemental labeling for Tordon 22K for areas west of the Mississippi River. They have directions for wick or carpet roller applications. Tordon 22K herbicide can be applied using wick or carpet roller equipment where drift presents a hazard to susceptible plants, surface waters, and other sensitive areas. One part Tordon 22K is mixed with 2 parts water to prepare a 33% solution. The wick method of application is more labor intensive but very effective at targeting particular noxious weeds adjacent to surface waters, wetlands, or protected plants.)

-Surveys for sensitive plants should be conducted by qualified surveyors prior to aerial applications and at all previously unsprayed sites so that sensitive and/or rare plant species may be protected where such plants are found in areas with weed infestations.

We thank you for including a 300 foot buffer for aerial applications around streams and other measures to reduce risk of herbicide drift to sensitive areas. Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. We believe a 300 feet buffer provides an adequate safety zone to reduce risk of drift and runoff of potentially toxic herbicides to streams and wetlands during aerial applications, and also acknowledge that some lessening of this buffer (to 150 feet) may be appropriate if drift card monitoring indicates that sensitive resources can still be protected. An adequate buffer zone is particularly important for streams with valuable or sensitive fisheries resources (e.g., westslope or bull trout) or where there are downstream public water supplies.

We also note that one of the proposed mitigation measures indicates that all herbicide applications have to comply with Lolo NF Plan water protection measures (mitigation measure #28 on page 28). The Lolo NF water protection measures, however, are not clear to us (and perhaps to other DEIS readers). We recommend that a reference be provided to identify where the Lolo NF water protection measures can be found so that they can be reviewed.

4. Noxious weeds tend to gain a foothold where there is disturbance in the ecosystem (e.g., logging sites, construction sites, road building, soil disturbance, fire, motorized travel, recreation, livestock grazing, etc.,). Weed seeds are transported by wind and water, animal fur, feathers and feces, but primarily by people. Weed prevention is a critical component in a weed management program.

EPA is pleased to see that the DEIS includes discussion of the dynamics of weed invasion; how weeds spread; present infestations; acres at risk; etc, (pages 38-44). Such information improves public understanding of the seriousness of the weed invasion problem and mechanisms and vectors for weed spread, which is likely to increase public support to reduce activities that spread weeds and promote more effective strategies that mitigate root causes of weed invasion and spread. This is important since educational

activities that encourage and promote public assistance in weed prevention and control are an important component of an Integrated Weed Management Program.

We appreciate the attention given to prevention practices and BMPs for weed control in the Forest Service Manual 2081 (Appendix G). Weed prevention is often the most cost-effective way to manage and control weeds by avoiding new infestations and spread of weeds, and thus, avoiding the need for subsequent weed treatments (e.g., revegetation of disturbed areas, use of weed free seed, cleaning vehicles and equipment, and other practices that prevent infestation and spread of weeds). Early recognition and control of new infestations avoids wider future use of herbicides and other control methods.

5. The weed prevention and control practices for fire in the Forest Service Manual (FSM 2081.2 #10, Appendix G) did not appear to include guidance that addressed potential for prescribed burning to stimulate weed growth and destroy insects planted for biological weed control. We suggest that you consider inclusion of practices that address noxious weed growth and loss of biological control with prescribed fire in the FSM or elsewhere in the DEIS.

6. The greatest vector for spread of weeds is through motorized vehicles-cars, trucks, ATVs, motorcycles, and even snowmobiles. Weed seeds are often caught on the vehicle undercarriage in mud and released on the Forest. A single vehicle driven several feet through a knapweed site can acquire up to 2,000 seeds, 200 of which may still be attached after 10 miles of driving (Montana Knapweeds: Identification, Biology and Management, MSU Extension Service; and DEIS page 143).

   We believe an effective noxious weed control program should include restrictions on motorized uses, particularly off-road uses. Off-road vehicles are designed to travel off-trail, disturbing soil, creating weed seedbeds, and dispersing seeds widely. Weed seed dispersal from non-motorized travel is of lesser concern because of fewer places to collect/transport seed, and the dispersal rate and distances along trails are less with non-motorized travel. Restrictions on motorized uses may also be needed after burning and harvest activities until native vegetation is reestablished in the disturbed areas to reduce potential for weed infestation of the disturbed sites. It is particularly important to avoid motorized travel in remaining roadless areas, since roadless areas are often reservoirs of native plants, and limitations on motorized travel in such areas can protect such areas from weed invasion and avoid the subsequent need to treat weeds.

   Are Lolo NF plans and policies for motorized uses and management of roadless areas consistent with the need to prevent and limit the spread of weeds by motorized uses?

7. We believe it is important to monitor results of weed treatment activities to document and assure effective weed treatment with minimal impacts on non-target species, and avoidance of other adverse environmental or public health effects. Monitoring should be

an integral part of the weed management program. EPA is pleased to see that District weed coordinators and Forest specialists would conduct periodic weed prevention Best Management Practices reviews (page 30), although we recommend reviews more frequently than every five years. We recommend pre- and post-evaluations of effectiveness for all weed control projects, so that non-effective weed treatments are re-evaluated and potentially replaced with more effective treatment methods. All treatment methods should be tracked to provide a comparison of the effectiveness of control measures, with all weed infestations and control actions tracked in a Forest-level weed database.

We believe it is important for the Lolo NF to monitor and evaluate: 1) density and rate of weed spread and their effects; 2) effectiveness of weed prevention and weed treatment measures; 3) effects of herbicides on noxious weeds; 4) establishment and effectiveness of biological control agents; and 5) presence of herbicide in surface or ground water in high risk areas (i.e. accidental spills, aerial application).

8. We believe the health of downstream domestic, agricultural and recreational water users and of the aquatic ecosystem should dictate that some level of water quality monitoring be carried out to document and verify that aqueous transport of herbicides, particularly picloram, which is highly mobile and toxic, does not occur. Monitoring is necessary to validate that herbicide application protocols and design criteria are effective in preventing herbicide transport to surface and ground waters, and may increase public confidence that chemical contamination of surface waters did not occur.

The discussion of monitoring (pages 30-31) indicates that water quality would be monitored before and after treatments "as deemed necessary by the unit hydrologist based on site conditions and experience with past projects." While we are pleased that this suggests that water quality monitoring would be conducted, we are concerned about the lack of definitive or specific information about proposed water quality monitoring. We believe additional information should be provided to describe when, where and how aquatic monitoring would be carried out or at least describe criteria for aquatic monitoring so the EIS reader has a better understanding of what is meant by the statement, "as deemed necessary by the unit hydrologist based on site conditions and experience with past projects."

We generally recommend that some sensitive streams and groundwaters adjacent to or nearby aerial herbicide treatment areas be monitored to validate that herbicide transport to aquatic areas does not occur, particularly monitoring for picloram, since these herbicides are highly soluble and mobile, and relatively persistent and toxic (i.e., select a stream with a high potential for herbicide drift for monitoring or high nearby treatment acreage or treatment area with porous soils and high groundwater, and if no herbicide is identified in this stream or in groundwater, you can better validate and extrapolate that mitigation measures were effective in preventing herbicide drift to other aquatic areas

with lower intensity of treatments). Such monitoring will determine if mitigation measures were effective in avoiding herbicide drift to streams or leaching to groundwater, and may increase public confidence that chemical contamination of surface waters did not occur.

We also note that bioassay techniques using aquatic species sensitive to the herbicides to be used are available for detecting aquatic impacts from herbicide applications (e.g., stoneflies, cutthroat trout). EPA has prepared a toxicity testing manual entitled, "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", EPA/600/4-90/027, September 1991. Toxicity testing procedures are described in this manual, including procedures using rainbow and brook trout.

9. Weed infestations are often able to out compete native vegetation in soils where overgrazing, fire, or other disturbance has depleted soil fertility levels. It may be useful to analyze for soil fertility parameters (pH, Ca, Mg, K, P, organic matter, % N). If soil fertility is low, it may be helpful to apply slow release fertilizers to initiate competitive growth of native vegetation. The Forest may also want to consider monitoring for herbicide concentrations in soils; and soil microbiologic assays; monitoring of plant communities; and monitoring of soil erosion and sedimentation rates.

10. Thank you for including aquatic toxicity information for proposed herbicides (Table 3-24, page 99). As noted above, we are generally more concerned about applications of the more toxic, persistent, and mobile herbicides such as picloram (Tordon), which is stated to be the most commonly used herbicide on the Lolo NF, and which has the greatest potential to move through soil and into ground water (page 108). There is always concern about the potential for herbicide contamination of surface and ground water, when herbicides are applied, since some herbicides may be harmful to humans and to fish and wildlife and to sensitive crops at very low concentrations.

The DEIS reports Lolo NF experience applying picloram near Ft. Missoula and at a site near the North Fork of Elk Creek, which showed no transport of picloram to groundwater, although picloram was found in deeper soil samples at the North Fork of Elk Creek site (page 108). This information appears to differ somewhat from recommendations of the Montana Department of Agriculture that indicate that six feet of soil are generally needed to avoid picloram movement to groundwater if the soils are less permeable (e.g., clay), and deeper soils are needed if soils are sandy, gravelly or have cobbly, stony, or other permeable structural characteristics.

We support measures to reduce potential for persistant herbicides such as picloram to accumulate in soil, or move into groundwater. Trade-offs between effective weed control and effects on soil productivity and leaching concerns need to be considered. Also, clean-up of groundwater supplies that have been contaminated by persistent pesticides

can be very difficult, so we believe it is best to avoid groundwater contamination in the first place.

We did not see information about the proposed or likely application rates and frequency of application of picloram and other more persistant herbicides. We recommend a cautious approach to using picloram where there are high groundwater levels and permeable soils. Soil permeability and depth to groundwater criteria should be established for herbicide applications to mitigate the potential for the movement of leachable herbicides such as picloram to ground water. The Ground Water Information Center at the Montana Bureau of Mines & Geology in Butte, MT (406-496-4153) may have well log information for estimation of ground water levels in treatment areas.

Potential for persistant herbicides to accumulate in soil in harmful amounts would be reduced if most sites are treated only once per year (twice being the limit). A second treatment application of picloram if needed should only occur after 30 days (or according to label directions).

We are pleased that it is stated that aminopyralid is anticipated to reduce or replace much of the picloram use on the Lolo NF (page 108), since aminopyralid exhibits much less aquatic toxicity than picloram.

11. Table 3-30 (page 112) shows Montana Water Quality Human Health Standards for Herbicides. It is important to note that even though Montana Water Quality Standards do not include numerical criteria for aquatic life protection, they do include a general narrative standard that surface waters must "*be free from substances that create concentrations which are toxic or harmful to aquatic life*." The research/data requirements necessary to establish numerical aquatic life water quality criteria for chemicals are very rigorous, so numerical criteria for aquatic life protection for many chemicals, including herbicides, have not yet been established, but it is important to understand that many herbicides are still toxic to aquatic life even though numerical aquatic life criteria have not yet been established. This is evidenced by the aquatic toxicity information in Table 3-24. It would be helpful to disclose in the FEIS that Montana Water Quality Standards prohibit toxic or harmful concentrations to aquatic life in surface waters (including concentrations of weed control chemicals).

12. Thank you for including the discussion and evaluation of human health effects from proposed weed treatments, including analysis of potential for herbicide drift (beginning on page 115), disclosing that herbicide applications could result in cumulative does of herbicides to workers or the general public (page 132). It is also stated that herbicide applications may have a low short-term, very localized impact on extremely chemically sensitive individuals as a result of drift, although no significant cumulative health effects to the general public are predicted (page 133).

We note that the National Pesticide Telecommunication Network (NPTN) website at http://nptn.orst.edu/tech.htm http://nptn.orst.edu/tech.htm http://nptn.orst.edu/tech.htm which operates under a cooperative agreement with EPA and Oregon State University and has a wealth of information on toxicity, mobility, environmental fate on pesticides that may be helpful (phone number 800-858-7378).

13. As you know most picloram products, including Tordon 22K, are Restricted Use Pesticides requiring pesticide applicator certification to purchase and apply. It is important that U.S. Forest Service employees be certified throughout the duration of the project. If commercial applicators will be contracted for application of Restricted Use Pesticides, we recommend checking to make sure their MT commercial Restricted Use Pesticides license is current. Please contact Montana Dept. of Agriculture at (406) 444-5400 for more information.

14. Please be aware that certain pest control activities described in the DEIS may fall under EPA's Worker Protection Standard (WPS) if, (1) the U.S. Forest Service is the "employer" in control of the "operation" and the operation involves or is related to commercial production of timber or timber products, (2) the U.S. Forest Service is using WPS-labeled pesticides, and (3) the pesticide applications in question are related to the production of timber/timber products and they are not covered by one of the applicable exceptions or exemptions. If you have any questions regarding WPS or its applicability please contact either John Larson in the Helena EPA office at (406) 457-5023 or Jaslyn Dobrahner in the Denver EPA office at (303) 312-6252.

15. Since, spotted knapweed is one of the more prevalent noxious weed species in the project area (Table 3-8, page 41), we note that spotted knapweed is non-rhizomatous and should be relatively easy to control with lower rates of the most selective low toxicity herbicides.

16. Since biological control agents are being used on the Lolo NF (page 6), we recommend that sites selected for application of biological control agents be protected from other management actions that could negatively influence the biocontrol agent. Biological control sites can also function as collection points for redistribution of established biocontrols to other sites.

17. As a general practice, EPA suggests prioritizing perimeter weed infestations such as around trailheads and roadsides before treating interior weed infestations. Also, in order to prevent the establishment and spread of noxious weeds in recreation areas (trailheads, toilet areas, etc.), it may be helpful to consider the use of mulch where foot traffic is high and revegetation is difficult or impossible. Additionally, aesthetic barriers and posted signs may be utilized to discourage foot traffic in sensitive areas.

18. The DEIS discusses effects to wildlife including threatened and endangered wildlife (Grizzly Bear, Gray Wolf, Canada Lynx, and Bald Eagle, page150). We believe the final

EIS should include the associated U.S. Fish & Wildlife Service (FWS) Biological Opinion or FWS formal concurrence for the following reasons:

> (1) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
> (2) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and
> (3) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

Since the Biological Assessment and EIS must evaluate the potential impacts on listed species, they can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. EPA recommends that the final EIS and Record of Decision not be completed prior to the completion of ESA consultation. If the consultation process is treated as a separate process, the Agencies risk USFWS identification of additional significant impacts, new mitigation measures, or changes to the preferred alternative. If these changes have not been evaluated in the final EIS, a supplement to the EIS would be warranted.

19. We are pleased that potential effects to fisheries, amphibians, wildlife and sensitive plants were also evaluated and disclosed in Chapters 3. Will Forest biologists and botanists conduct field surveys and identify potential habitats for sensitive and threatened and endangered fish and wildlife and plant species for each treatment area as part of the preparation of the each annual weed management operating plan? We did not see this mitigation measure specifically included in the mitigation.